SONY

3-754-982-21(1)

# Graphic Equalizer

# SEQ-421

## Operating Instructions

Before operating the unit, please read this manual thoroughly and retain it for future reference.

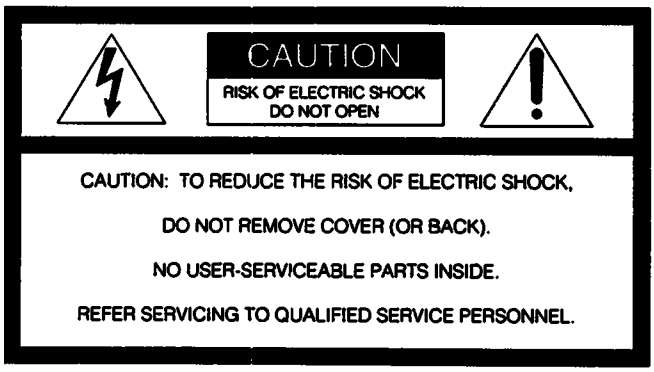
**OWNER'S RECORD**

The model and serial numbers are located at the rear. Record the serial number in the space provided below. Refer to them whenever you call upon your Sony dealer regarding this product.

Model No. SEQ-421 Serial No._____

**WARNING**

**To prevent fire or shock hazard, do not expose the unit to rain or moisture.**


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

* The graphical symbols are on the rear enclosure.

## Precautions

**On safety**

- Operate the unit only on 120 V AC, 60 Hz.
- The unit is not disconnected from the AC power source as long as it is connected to the wall outlet, even if the unit itself has been turned off.
- Should any solid object or liquid fall into the unit, unplug it and have it checked by qualified personnel before operating it any further.
- Unplug the unit from the wall outlet if it is not to be used for an extended period of time. To disconnect the cord, pull it out by grasping the plug. Never pull the cord itself.

**On installation**

- Do not install the unit in a location near heat sources such as radiators or air ducts, or in a place subject to direct sunlight, excessive dust, mechanical vibration or shock.
- Good air circulation is essential to prevent internal heat buildup in the unit. Place the unit in a location with adequate air circulation. Do not place the unit on a soft surface.

**On cleaning the cabinet**

Clean the cabinet, panel and controls with a soft cloth lightly moistened with mild detergent solution. Do not use any type of abrasive pad, scouring powder or solvent such as alcohol or benzine.

**On repacking**

Do not throw away the carton and the packing material. It makes an ideal container to transport the unit in.

**For the customers in the U.S.A.**

For detailed precautions, see the leaflet "IMPORTANT SAFEGUARD".

If you have any question or problem concerning your unit, please consult your nearest Sony dealer.

**For the customers in Canada**

**CAUTION**

TO PREVENT ELECTRIC SHOCK, DO NOT USE THIS POLARIZED AC PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

## Connection Notes

- Connect the AC power cord last. Make sure power is off.
- The cable connectors should be fully inserted into the jacks. A loose connection may cause hum and noise.
- Cord plugs and jacks are color coded. Red plugs and jacks are for right channel (R) and white ones for the left channel (L).

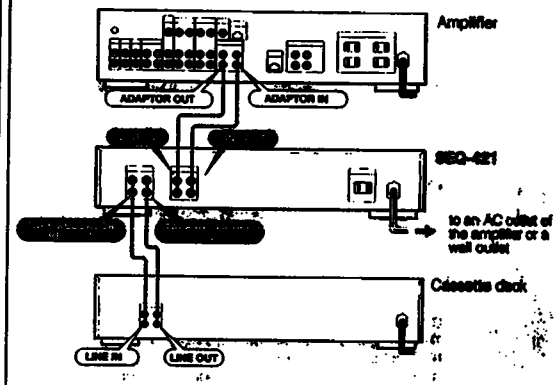
**AC OUTLET**

Use the AC outlet to power audio component whose power consumption is less than the wattage indicated on the AC OUTLET. The outlet is not controlled by the POWER switch. Even when the apparatus is switched off, "UNSWITCHED" socket outlet remains live unless mains plug is pulled out from the wall outlet.

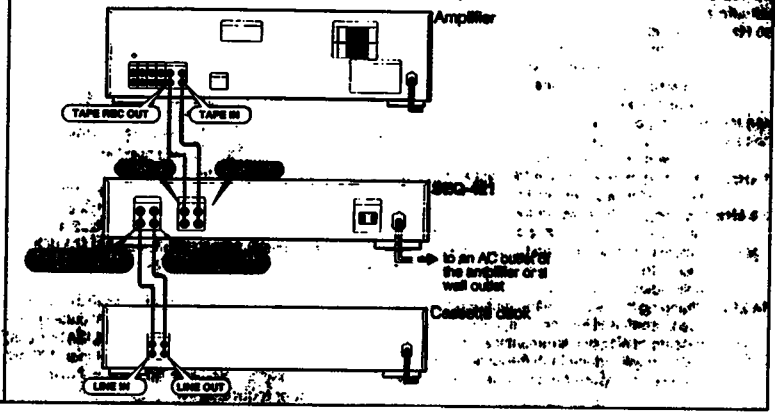
**CAUTION**

Do not connect any electrical home appliances such as an electric iron, fan, TV or other high wattage equipment to the AC outlet.

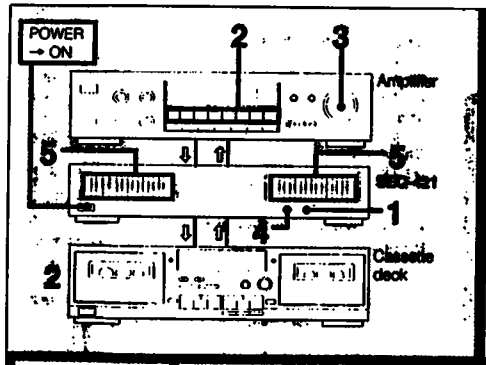
### Connecting to the ADAPTOR Jacks of Amplifier




### Connecting to the TAPE Jacks of Amplifier with the Tape Monitor Function




## Equalizing Sound




**1** Select the input signal to be equalized.

**For the program source from the amplifier:**
Press the TAPE button so that the TAPE indicator goes off

**Note**
When connecting to the TAPE jacks of the amplifier, set the tape monitor switch to ON

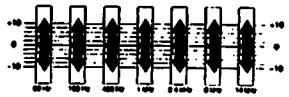
**For the sound from the cassette deck:**
Press the TAPE button so that the TAPE inidcator lights up

**2** Select the desired source with the amplifier and play the program source, or play back a tape on the cassette deck.

**3** Adjust the volume level of the amplifier.

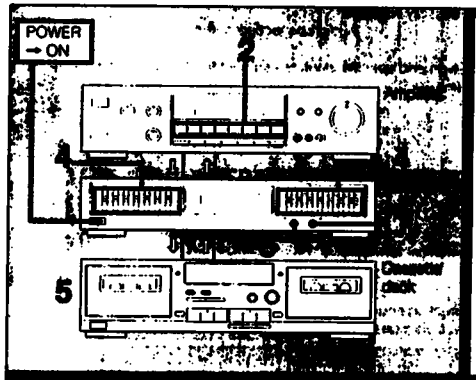
**4** Press the EQUALIZATION button so that the EQUALIZATION indicator lights up

**5** Adjust the equalizing level



**To listen to the sound without the equalizer effect**
Press the EQUALIZATION button so that the indicator goes off. The input signal is directly output to both LINE OUT and TAPE RECORDER REC OUT jacks

## Recording the Equalized Sound



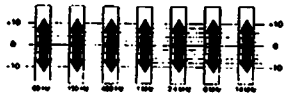

**1** Press the TAPE button so that the TAPE indicator goes off.

**2** Select and play the desired source

**3** Press the EQUALIZATION button so that the EQUALIZATION indicator lights up.




**4** Adjust the equalizing level



**5** Set the cassette deck to recording mode

**To record sound without the equalizer effect**
Press the EQUALIZATION button so that the indicator goes off

# Frequency Coverage of Each Equalizer Control

**Adjustable frequency bands and the effect of level adjustment**

**60 Hz:** Lowering the level will cut the ventilation noise of a music hall, hum of electronic instruments, boomy bass, etc. Raising the level will reinforce the heavy bass part of a pipe organ or add depth to the bass sound.

**150 Hz:** Boosting or cutting the normal bass.

**400 Hz:** Increasing or decreasing the power, spaciousness and warmth of the sound.

**1 kHz:** Providing more presence for vocals, and moving the sound forward or into the background.

**2.4 kHz:** Lowering the level will reduce stridency, and raising will make the base sound brighter.

**6 kHz:** Increasing or decreasing the brightness of the sound; for example, raising the level will make the violin sound silky smooth.

**14 kHz:** Changing the general atmosphere rather than the sound itself. Raising the level will highlight the delicate quality of instrumental sound, and lowering will reduce high-frequency noise such as the resonant peak of a cartridge tape hiss, etc.

**Checking the equalization results**

Press the EQUALIZATION button again to off (released position).
The equalizer circuit is bypassed, and you can hear the sound without equalization.
By switching the EQUALIZATION button on and off, compare the results.
The spectrum analyzer can be used to visually confirm the need for and effect of equalizer adjustment.

# Specifications

| | |
|---|---|
| Inputs | LINE IN: Phono jacks, 245 mV (–10 dBs), 50 kilohms<br>TAPE IN: Phono jacks, 245 mV (–10 dBs), 50 kilohms |
| Outputs | LINE OUT: Phono jacks, 245 mV (–10 dBs),<br>Load impedance: more than 10 kilohms<br>TAPE REC OUT: Phono jacks, 245 mV (–10 dBs),<br>Load impedance: more than 10 kilohms |
| Graphic equalizer | Boost/cut range: ± 10 dB<br>Center frequencies: 60 Hz, 150 Hz, 400 Hz, 1 kHz, 2.4 kHz, 6 kHz, 14 kHz |
| Frequency response (with EQUALIZATION on) | LINE IN: 20 Hz to 40 kHz $^{+0}_{-1.5}$ dB |
| Harmonic distortion | LINE IN: Less than 0.008% (at 1 kHz, 1 V output) |
| Signal-to-noise ratio (with EQUALIZATION on) | LINE IN: Better than 100 dB (A network, 1 V output) |
| Power requirements | 120 V AC, 60 Hz |
| Power consumption | 5 W |
| AC outlet | 1 unswitched, 120 W/1 A max. |
| Dimensions | Approx. 430 x 80 x 265 mm (w/h/d) (17 x 3 1/4 x 10 1/2 inches) |
| Weight | Approx. 2.5 kg (5 lb 8 oz) |
| Accessory supplied | Audio connecting cords (2) |

Design and specifications are subject to change without notice.

# Troubleshooting

Before going through the check list below, first refer back to the connection and operating procedures.
Should any problem persist after you have made these checks, consult your nearest Sony dealer.

| Trouble | Remedy |
|---|---|
| No audio even when the POWER switch is turned on. | • Check if the power cord is disconnected.<br>• Check if the connecting cord is disconnected.<br>• Check the TAPE button setting. |
| No equalization. | • Check if the EQUALIZATION button is set to off (the indicator goes off).<br>• Check the connections. |
| The program source connected to the amplifier cannot be recorded. | • Check if the TAPE button is set to on (the indicator lights up). |

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